

CLAIMS

1. In a network-connected integrated circuit device, a method for securely provisioning configuration data, the method comprising:

5 receiving configuration data;
loading the configuration data; and,
locking to prevent the loading of subsequently received configuration data.

10 2. The method of claim 1 wherein receiving configuration data includes receiving data bytes addressed to device registers; and,
wherein loading the configuration data includes loading the received data in configuration registers.

15 3. The method of claim 2 wherein locking to prevent the loading of subsequently received configuration data includes:
establishing at least one locking register having a first address;
loading a first lock set in the locking register; and,
20 in response to loading the first lock set in the locking register, preventing the loading of received data in the configuration registers.

4. The method of claim 3 wherein loading a first lock set
25 in the locking register includes loading a first lock set having a unique value.

5. The method of claim 4 wherein loading the received data in configuration registers includes:

loading a non-lock set, not equal to the first lock set, in the
5 locking register; and,
in response to loading the non-lock set in the locking register,
loading received data in the configuration registers.

6. The method of claim 5 wherein loading a non-lock set,
10 not equal to the first lock set, in the locking register includes loading a
key set having a unique value; and,

wherein loading received data in the configuration registers
in response to loading the non-lock set in the locking register includes
loading received data in response to the key set.

15 7. The method of claim 5 wherein locking to prevent
subsequent loading of configuration data includes:

establishing a first locking register having a first address
and a second locking register having a second address;

20 loading a first lock set in the first locking register and a
second lock set in the second locking register; and,

in response to loading the first lock set in the first locking
register and the second lock set in the second locking register, preventing
the loading of received data in the configuration registers.

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8. The method of claim 7 wherein establishing a first locking register having a first address and a second locking register having a second address includes establishing non-contiguous first and second addresses.

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9. The method of claim 8 wherein establishing a first locking register having a first address and a second locking register having a second address includes the first and second lock sets having values that are equal.

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10. The method of claim 8 wherein establishing a first locking register having a first address and a second locking register having a second address includes the first and second lock sets having values that are unequal.

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11. The method of claim 7 wherein locking to prevent the loading of subsequently received configuration data includes:

establishing a plurality of locking registers having a corresponding plurality of addresses;

20 loading a lock set in each corresponding locking register;

and,

in response to loading the plurality of lock sets in the corresponding locking registers, preventing the loading of received data in the configuration registers.

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12. The method of claim 5 further comprising:

following the loading the first lock set in the locking register,
loading a non-lock set in the locking register; and,
in response to the non-lock set, permitting write access to the
configuration registers.

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13. The method of claim 12 wherein loading a non-lock set
in the locking register includes the non-lock set being a key set having a
unique value.

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14. In a system of networked devices, a method for
securely provisioning configuration data, the method comprising:

booting the system up;

supplying data to provision at least one network-connected
device; and,

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locking the network-connected device to prevent subsequent
data provisioning.

15. The method of claim 14 wherein supplying data to
provision at least one network-connected device includes:

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supplying data bytes addressed to the device registers; and,
loading the received data in the device configuration
registers.

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16. The method of claim 15 wherein locking the network-
connected device to prevent subsequent data provisioning includes:
supplying at least a first lock set;

loading the first lock set in at least one locking register
having a first address; and,

in response to loading the first lock set in the locking
register, preventing the loading of subsequently provisioned data in the
5 device configuration registers.

17. The method of claim 16 wherein loading a first lock set
in at least one locking register having a first address includes loading a
first lock set having a unique value.

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18. The method of claim 17 wherein supplying data to
provision at least one network-connected device includes:

supplying a non-lock set, not equal to the first lock set;
loading the non-lock set in the device locking register; and,
15 in response to loading the non-lock set in the locking register,
provisioning the device configuration registers.

19. The method of claim 18 wherein supplying a non-lock
set, not equal to the first lock set includes supplying a key set having a
20 unique value.

20. The method of claim 18 further comprising:
following the loading the first lock set in the locking register,
loading a non-lock set value in the locking register; and,
25 in response to the non-lock set, permitting write access to the
configuration registers.

21. The method of claim 20 wherein the non-lock set is a key set having a unique value.

5 22. In a network integrated circuit device, a system for securely provisioning configuration data, the system comprising:

a plurality of configuration registers having a corresponding plurality of addresses, wherein the device is configured in response to the data in the configuration registers; and,

10 at least one locking register, having a first address, to prevent the loading of data in the configuration registers.

23. The system of claim 22 wherein the locking register is loaded with a first lock set, and wherein the locking register prevents the
15 loading of data in the configuration registers in response to the first lock set.

24. The system of claim 23 wherein the first lock set has a unique value.

20 25. The system of claim 24 wherein the locking register is loaded with a non-lock set not equal to the first lock set, and wherein the locking register permits the loading of data in the configuration registers in response to the non-lock set.

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26. The system of claim 25 wherein the locking register is loaded with a key set having a unique value, and wherein the locking register permits the loading of data in the configuration registers in response to the key set.

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27. The system of claim 25 wherein the at least one locking register includes a first locking register having a first address and a second locking register having a second address, and wherein the first and second locking registers prevent the loading of data in the configuration registers in response to loading first and second lock sets, respectively, in the first and second locking registers.

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28. The system of claim 27 wherein the first and second locking registers have non-contiguous first and second addresses.

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29. The system of claim 27 wherein the first and second lock sets have values that are equal.

30. The system of claim 27 wherein the first and second lock sets have values that are not equal.

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31. The system of claim 25 wherein the at least one locking register includes a plurality of locking registers having a corresponding plurality of addresses, and wherein the plurality of locking registers prevent the loading of data in the configuration registers in

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response to loading a plurality of lock sets in the corresponding plurality of locking registers.

32. The system of claim 25 wherein the at least one
5 locking register accepts a non-lock set, following the loading the first lock set, and permits write access to the configuration registers in response to the non-lock set.

33. The system of claim 32 wherein the non-lock set is a
10 key set with a unique value.